UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,513	04/08/2005	Rong Qi	CL001362-US	1176

7590 05/15/2007

Celera Genomics
45 West Gude Drive C2-21
Rockville, MD 20850

EXAMINER	
BUNNER, BRIDGET E	
ART UNIT	PAPER NUMBER
1647	

MAIL DATE	DELIVERY MODE
05/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,513	QI ET AL.	
	Examiner	Art Unit	
	Bridget E. Bunner	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-23* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Appendix A*.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-2 and 20-21, drawn to an isolated peptide consisting of an amino acid sequence.

Group II, claim(s) 3, drawn to an isolated antibody that selectively binds to a peptide.

Group III, claim(s) 4-5, 8-11, and 22-23, drawn to an isolated nucleic acid molecule.

Group IV, claim(s) 6, drawn to a gene chip comprising a nucleic acid.

Group V, claim(s) 7, drawn to a transgenic non-human animal comprising a nucleic acid molecule.

Group VI, claim(s) 12, drawn to a method for detecting the presence of a peptide comprising contacting the sample with a detection agent that allows detection of the presence of the peptide in the sample.

Group VII, claim(s) 13, drawn to a method for detecting the presence of the nucleic acid molecule comprising contacting a sample with an oliognucleotide that hybridizes to said nucleic acid molecule.

Group VIII, claim(s) 14-16 and 19, drawn to a method for identifying a modulator of a peptide comprising contacting said peptide with an agent and determining is said agent has modulating the function, activity, or expression of the peptide.

Group IX, claim(s) 17, drawn to a pharmaceutical composition comprising an agent that binds to a peptide.

Group X, claim(s) 18, drawn to a method for treating a disease or condition mediated by a human transporter protein comprising administering an agent that binds a peptide.

2. The inventions listed as Groups I-X do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

This PCT rule defines special technical features as technical features that identify a contribution which each of the claimed inventions, considered as a whole, makes over prior art. Claims 1-2 and 20-21 are anticipated by prior art. Yue et al. (WO 2002/12340; 14 February 2002) teach an isolated polypeptide of SEQ ID NO: 28 that is 99.5% identical to the amino acid sequence of SEQ ID NO: 2 of the instant application (see sequence alignment attached to the instant Office Action as Appendix A). Therefore, claims 1-2 and 20-21 lack a special technical feature and cannot share one with the other claims.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found

allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner whose telephone number is (571) 272-0881. The examiner can normally be reached on 8:30-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nickol can be reached on (571) 272-0835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BEB
Art Unit 1647
11 May 2007

Bridget E. Bunner

BRIDGET BUNNER
PATENT EXAMINER

Appendix A

```
<!--StartFragment-->RESULT 2
AAE21184
ID   AAE21184 standard; protein; 515 AA.
XX
AC   AAE21184;
XX
DT   01-JUL-2002  (first entry)
XX
DE   Human TRICH-28 protein.
XX
KW   Human; transporter and ion channel; TRICH-28; transport disorder; angina;
KW   amyotrophic lateral sclerosis; cystic fibrosis; neuromuscular disorder;
KW   cardiac disorder; polymyositis; diabetes; neurological disorder; cancer;
KW   depression; schizophrenia; anaemia; Wilson's disease; Cushing's disease;
KW   cell proliferated disorder; infertility; arteriosclerosis; gene therapy;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; allergy;
KW   myasthenia gravis; multiple sclerosis; metabolic disorder; hypertension;
KW   acquired immune deficiency syndrome; immunological disorder; scleroderma;
KW   endocrine disorder; autoimmune thyroiditis; rheumatoid arthritis; goitre;
KW   cardiac myopathy; amnesia; toxic myopathy; Addison's disease; infection;
KW   epilepsy; mental disorder; myocarditis; Crohn's disease; Grave's disease;
KW   muscle disorder; stroke; dementia; anxiety; AIDS; asthma; cirrhosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Domain          77. .455
FT                   /note= "Monocarboxylate transporter domain"
FT   Domain          117. .135
FT                   /note= "Transmembrane domain"
FT   Domain          169. .191
FT                   /note= "Transmembrane domain"
FT   Domain          190. .215
FT                   /note= "Transmembrane domain"
FT   Domain          229. .245
FT                   /note= "Transmembrane domain"
FT   Domain          376. .395
FT                   /note= "Transmembrane domain"
XX
PN   WO200212340-A2.
XX
PD   14-FEB-2002.
XX
PF   01-AUG-2001; 2001WO-US024217.
XX
PR   03-AUG-2000; 2000US-0223269P.
PR   10-AUG-2000; 2000US-0224456P.
PR   18-AUG-2000; 2000US-0226410P.
PR   25-AUG-2000; 2000US-0228140P.
PR   31-AUG-2000; 2000US-0230067P.
PR   08-SEP-2000; 2000US-0231434P.
XX
PA   (INCY-) INCYTE GENOMICS INC.
XX
PI   Yue H, Thornton M, Ramkumar J, Tang YT, Azimzai Y, Baughn MR;
PI   Yang J, Yao MG, Lal P, Walia NK, Gandhi AR, Hafalia AJA, Nguyen DB;
PI   Patterson C, Elliott VS, Tribouley CM, Lu DAM, Xu Y, Reddy R;
PI   Hernandez R, Borowsky ML, Lo TP, Lu Y, Policky JL, Greene BD;
PI   Sanjanwala MS, Raumann BE, Burford N, Ison CH, Lee EA, Ding L;
PI   Das D, Kallick DA, Khan FA, Seilhamer JJ;
XX
DR   WPI; 2002-206330/26.
DR   N-PSDB; AAD33673.
XX
PT   New human transporters and ion channels polypeptides and polynucleotides
PT   for diagnosing, preventing or treating transport, neurological, muscle,
PT   immunological and cell proliferative disorders.
XX
PS   Claim 72; Page 193-194; 230pp; English.
XX
CC   The invention relates to human transporter and ion channel polypeptides
CC   designated TRICH and nucleic acid molecules encoding such polypeptides.
CC   TRICH sequences are useful for diagnosis, treatment and prevention of
CC   transport, muscle, neurological, immunological and cell proliferative
CC   disorders. Transport disorders include akinesia, amyotrophic lateral
CC   sclerosis, ataxia telangiectasia, cystic fibrosis, Becker's muscular
```

Appendix A (cont.)

```
CC   dystrophy, diabetes mellitus, diabetes insipidus, myasthenia gravis,
CC   myocarditis, prostate cancer, cardiac disorders associated with transport
CC   e.g. polymyositis, bradyarrythmia, dermatomyositis, angina, neurological
CC   disorders associated with transport e.g. amnesia, bipolar disorder,
CC   depression, Tourette's disorder, schizophrenia, other disorders
CC   associated with transport e.g. neurofibromatosis, sickle cell anaemia,
CC   Wilson's disease, cataracts, infertility, hyperglycaemia, hypoglycaemia,
CC   goitre, Cushing's disease, hypercholesterolaemia and cystinuria. Cell
CC   proliferated disorders include cancer, actinic keratosis, cirrhosis,
CC   arteriosclerosis, atherosclerosis, bursitis, hepatitis and psoriasis.
CC   Neurological disorders include Alzheimer's, Pick's and Parkinson's
CC   disease, amyotrophic lateral sclerosis, epilepsy, stroke, Huntington's
CC   disease, multiple sclerosis, dementia and other extrapyramidal disorder,
CC   motor neuron disorder, prion disease, metabolic disease of the nervous
CC   system and other developmental disorders of the central nervous system,
CC   neuromuscular disorders, metabolic, endocrine and toxic myopathies,
CC   periodic paralysis, mental disorders including mood, anxiety; and
CC   immunological disorders include acquired immune deficiency syndrome
CC   (AIDS), adult respiratory distress syndrome, Addison's disease,
CC   allergies, asthma, atherosclerosis, osteoporosis, autoimmune haemolytic
CC   anaemia, autoimmune thyroiditis, Crohn's disease, atopic dermatitis,
CC   Grave's disease, glomerulonephritis, rheumatoid arthritis, scleroderma,
CC   systemic lupus erythematosus, systemic sclerosis, ulcerative colitis,
CC   haemodialysis, uveitis; viral, bacterial, fungal, parasitic, protozoal,
CC   helminthic infections and trauma; and muscle disorders include cardiac
CC   myopathy, myocarditis, polymyositis, arrhythmias and hypertension. The
CC   TRICH polynucleotides are used in gene therapy. The present sequence is
CC   human TRICH-28 protein
XX
SQ   Sequence 515 AA;

  Query Match             99.5%;  Score 2660.5;  DB 5;  Length 515;
  Best Local Similarity   99.8%;  Pred. No. 1.9e-253;
  Matches  515;  Conservative    0;  Mismatches    0;  Indels    1;  Gaps    1;

Qy          1 MVLSQEEPDSARGTSEAQPLGPAPTGAAPPPGPGPSDSPEAAVEKVEVELAGPATAEPHE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MVLSQEEPDSARGTSEAQPLGPAPTGAAPPPGPGPSDSPEAAVEKVEVELAGPATAEPHE 60

Qy         61 PPEPPEGGWGWLVMLAAMWCNGSVFGIQNACGVLFVSMLETFGSKDDDKMVFKTAAWVGS 120
              |||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Db         61 PPEPPEGGWGWLVMLAAMWCNGSVFGIQNACGVLFVSMLETFGSKDDDKMVFKT-AWVGS 119

Qy        121 LSMGMIFFCCPIVSVFTDLFGCRKTAVVGAAVGFVGLMSSSFVSSIEPLYLTYGIIFACG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        120 LSMGMIFFCCPIVSVFTDLFGCRKTAVVGAAVGFVGLMSSSFVSSIEPLYLTYGIIFACG 179

Qy        181 CSFAYQPSLVILGHYFKKRLGLVNGIVTAGSSVFTILLPLLLRVLIDSVGLFYTLRVLCI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        180 CSFAYQPSLVILGHYFKKRLGLVNGIVTAGSSVFTILLPLLLRVLIDSVGLFYTLRVLCI 239

Qy        241 FMFVLFLAGFTYRPLATSTKDKESGGSGSSLFSRKKFSPPKKIFNFAIFKVTAYAVWAVG 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        240 FMFVLFLAGFTYRPLATSTKDKESGGSGSSLFSRKKFSPPKKIFNFAIFKVTAYAVWAVG 299

Qy        301 IPLALFGYFVPYVHLMKHVNERFQDEKNKEVVLMCIGVTSGVGRLLFGRIADYVPGVKKV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        300 IPLALFGYFVPYVHLMKHVNERFQDEKNKEVVLMCIGVTSGVGRLLFGRIADYVPGVKKV 359

Qy        361 YLQVLSFFFIGLMSMMIPLCSIFGALIAVCLIMGLFDGCFISIMAPIAFELVGAQDVSQA 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        360 YLQVLSFFFIGLMSMMIPLCSIFGALIAVCLIMGLFDGCFISIMAPIAFELVGAQDVSQA 419

Qy        421 IGFLLGFMSIPMTVGPPIAGLLRDKLGSYDVAFYLAGVPPLIGGAVLCFIPWIHSKKQRE 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        420 IGFLLGFMSIPMTVGPPIAGLLRDKLGSYDVAFYLAGVPPLIGGAVLCFIPWIHSKKQRE 479

Qy        481 ISKTTGKEKMEKMLENQNSLLSSSSGMFKKESDSII 516
              |||||||||||||||||||||||||||||||||||||
Db        480 ISKTTGKEKMEKMLENQNSLLSSSSGMFKKESDSII 515
<!--EndFragment-->
```